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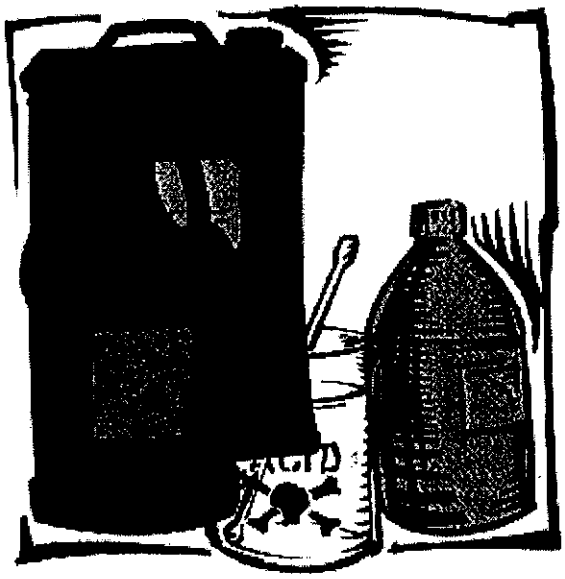
Pesticides in and Around Schools - Time for Change

By Lyndon Hawkins



When schools and pesticides are mentioned in the same news item, it is doubtful that the story will focus on cockroaches in the cafeteria or mold in the gym.

More likely, students or teachers are calling for an investigation. In today's environment, the idea that pest control decisions can be left to a custodian or commercial exterminator seems as quaint as the one-room schoolhouse.

School board members and administrators face tough questions from students, parents, teachers, and activist groups on pesticides in and around the classroom. Administrators themselves often need an education on their district's approach to pest control and an understanding of pesticide terminology. Where can educators learn the ABCs of pest control and their options to reduce pesticide risks?

DPR PROMOTES PROACTIVE PEST CONTROL

Since 1980, various projects at the California Environmental Protection Agency's (Cal/EPA) Department of Pesticide Regulation (DPR) have focused on reducing risks associated with pesticide use in the urban community, including parks and schools. Much of this effort is aimed at facilitating

integrated pest management (IPM) training for government staff and providing specialized information about pests and pesticides to workers and the general public. More recently, projects have been oriented to funding reduced-risked pest management research and forming alliances with agriculture and non-agriculture groups, including schools. The purpose of these recent efforts is to facilitate the adoption of IPM strategies.

IPM policies have been established in several California school districts, including Cloverdale, Fremont Unified, Fontana Unified, Los Angeles Unified, Pajaro Valley Unified, Placer Hills Union, San Diego Unified, and Templeton. A number of these districts have been recognized by DPR with "IPM Innovator" awards. Innovators have worked hard to reduce risks associated with pesticide use and have done so in creative ways.

DPR surveyed all school districts in 1994 to learn about IPM policies and programs in schools[1]. About 10 percent of the respondents (52) had a pest management policy and program whereas 124 districts had a pest management program. Besides official policies to establish an IPM program, numerous schools have IPM programs. It is likely that the number of IPM programs has increased since 1994.

RESOURCES

When school staff are called upon to answer questions about pesticide use on their campus, specific information is frequently lacking. Furthermore, for those school districts without a clear policy dealing with pesticides, a typical first response might be to ban pesticides from the school campus. Later, after decision-makers have a better understanding about pesticides and IPM, a ban will likely have to be rewritten. Before taking drastic actions and enacting policy that will be difficult to follow, it is a good idea to look to those school districts that have already adopted an IPM program.

Information can also be obtained from the local county agricultural commissioner and Cooperative Extension University of California. (Check the local telephone book under government listings.)

Finally, some structural pest control companies promote IPM by providing services including pest identification, pest monitoring, and the use of reduced-risk pest control practices. To ensure that they obtain quality IPM services, school districts should solicit companies based on a Request for Qualifications, select the best companies in the first group to bid on a Request for Proposals, and conduct an oral interview. For example, the Inland Empire Schools Insurance Authority in San Bernardino completed this task for 34 school districts. At their discretion, each district may choose one of two companies to conduct their IPM program. This process saved each district considerable time.

A quality assurance process which focuses on communication is also a key component of the contract with the service provider. Communication of all pest control activities by the company to someone at the site or facility is absolutely necessary. Information is retained at the facility and a copy is forwarded to the IPM program supervisor for review. The review focuses on two key questions: Was information properly communicated, and did the company follow school policy and its intent? Clearly, administrators of any school that adopts an IPM program must have staff properly trained to review reports relating to pest control activities.

SUCCESSFUL IPM PROGRAMS

To set up a successful IPM program, most school districts have a policy approved by top management that establishes the following elements:

- The designation of someone in the role of IPM coordinator.
- A commitment by management to involve all staff, students, and parents in the program.
- An information and training program provided to everyone based on need.
- A record of all pest management activities, particularly pesticide use, kept at each school site and district headquarters.
- An annual evaluation of program results.

Administrators often ask about the costs associated with an IPM program. This is not easily answered because there is no baseline data for costs associated with a current program. However, if the pest control program is typical, then there may be a savings in costs for contracted services and an increase in costs associated with staff training. By establishing a baseline of costs for the categories listed below, an assessment can be completed and the IPM program tracked.

Costs for any pest management program are associated with five general categories:

1. Contracts for pest control services (typically monthly service) and for emergency or special services (the cost to respond to unusual pest problems such as skunks under a building, a swarm of bees, a black widow spider in a classroom, or bird mites biting students).
2. Cost for training staff to handle pesticides, including disinfectants (can be reported as number of people trained, their job classification, title of training course, and number of hours per year per employee).
3. Pesticide purchases per year (includes chemicals and devices such as disposable traps).
4. Special or periodic IPM projects, including annual or biennial inspections, purchase and/or installation of special pest control equipment (such as certain vacuum cleaners or air curtains), building fumigation, unusual pest problems (such as birds, or skunks), and construction for pest prevention.
5. Management costs as related to committee and management meetings, contract procedures, record keeping, liability insurance, development of training guides and materials, and conflict resolution.

The adoption of an IPM program can reduce costs and improve pest control. The IPM coordinator needs the support of management, staff, and the community. Providing information to constituents is critical to the success of the IPM program which will hopefully lead to improved credibility and reduced-risk associated with pesticide use.

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[1] Simmons, S.E., T.E. Tidwell, & T.A. Barry. 1996. Overview of pest management policies, programs, and practices in selected California public school districts. Department of Pesticide Regulation PM 96-01

WEB SITES FOR SCHOOL AND URBAN IPM AND PESTICIDES

Department of Pesticide Regulation - Products registered in California
http://www.cdpr.ca.gov

University of Florida, School IPM including pest control, policies, resources, and training aids
http://www.ifas.ufl.edu/~schoolipm

University of California - pest control information
http://www.ipm.ucdavis.edu/PEP/pepmenu.html

Armed Forces Pest Management Board - IPM manual, policies, record keeping
http://www-afpmb.acq.osd.mil/

University of Nebraska - pest control information
http://ianrwww.unl.edu/ianr/pat/ephome.htm

Oregon State University - pesticide safety information
http://ace.ace.orst.edu/info/nptn/

INTEGRATED PEST MANAGEMENT (IPM)

IPM is a common sense approach to pest control. IPM programs start with pest prevention, involve improved sanitation, and, before using a pesticide, making sure that pest problems are properly identified.

INTEGRATED CONTROL

In 1967, the United Nations, Food and Agriculture Organization panel of experts defined integrated control as *"a pest management system that in the context of the associated environment and the population dynamics of the pest species, utilizes all suitable techniques and methods in as compatible a manner as possible and maintains the pest populations at levels below those causing economic injury."*

Common terms, some that have legal definitions, include:

Pesticide: A chemical that kills or repels pests. Pesticides include herbicides (weeds), insecticides (insect), fungicides (plant diseases), and germicides, sterilants, and disinfectants (germ killers). All pesticides sold in California must be registered by the U.S. Environmental Protection Agency and the Department of Pesticide Regulation (Cal/EPA). Each product is given an EPA registration number.

Pest: an unwanted organism

Pest Control: the use of any substance, method, or device to prevent, destroy, repel, mitigate, or correct a pest infestation or inhibit, regulate, stimulate, or alter growth of plants (desirable or undesirable).

UNDERSTANDING PEST CONTROL TERMS AND JARGON

Principals, school administrators, and school boards often are unfamiliar with pests, pest control, and pesticides. The terminology may be strange, and there are numerous federal and state laws that regulate how pesticides are registered and used. Reading and understanding a pesticide label, which is also considered to be part of the law, is usually a task viewed with fear by those not familiar pesticide technology and law. The potential for misinformation being given to a concerned parent or teacher is significant and may lead to confrontation.

There are numerous resources to help in the understanding of terminology associated with pesticides and pest control. The Internet provides access to several sites. Even manuals for pest control are available and can be downloaded. Frequently these manuals contain a glossary of pest management terms. An important term "integrated pest management" or IPM was introduced to agriculture (in concept) in the late 1950's and has relevance today to reducing risks associated with pesticides. Integrated control, as IPM was called, focused on improving decision making about pest control through "supervised control" and scouting or monitoring pest activity. Equally important was the integrating of biological control (use of parasites and predators of pests) with chemical control (pesticides) with the least effect of the pesticide to non-target organisms. The IPM concept, with numerous definitions, has become the innovative standard with which to compare conventional pest control.

Pesticides include herbicides, insecticides, rodenticides, fungicides, disinfectants, sterilants, and numerous other words with the suffix of -icide. Legally, any substance that is sold which claims that it kills, repels, destroys, or mitigates a pest must be registered as a pesticide. This even includes single cell organisms that are labeled for pest control.

Finally, another set of common terms surround meaning associated with toxic, non-toxic, least toxic, etc. Suffice it to say that all pesticides are toxic, it depends on the dose and the response by the intended or unintended organism. Chemicals can be defined in terms of relative toxicity, again depending on the response by different organisms and the type of exposure. For example, dermal or skin exposure toxicity is different from inhalation, eye or ingestion exposure. Toxicity can also be expressed in terms of short-term or long-term exposure. Hazard is used to describe the toxicity under a set of circumstances based on protection of the workers and those entering the treated environment.